

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte JAMES D. PARSONS

Appeal No. 2006-2104
Application No. 10/655,904¹

ON BRIEF

MAILED

SEP 27 2006

U.S. PATENT AND TRADEMARK OFFICE
BOARD OF PATENT APPEALS
AND INTERFERENCES

Before KRASS, SAADAT, and MACDONALD, Administrative Patent Judges.
SAADAT, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134(a) from the Examiner's final rejection of claims 1-5 and 7-21. Claims 22-26 have been allowed and claim 6 has been objected to as being dependent upon a rejected base claim but otherwise allowable if rewritten to include all the limitations of the base claim and any intervening claim.

We affirm.

¹ Application for patent filed September 5, 2003, which according to Appellant, is a continuation-in-part of Application No. 09/906,441, filed July 16, 2001, now U.S. Patent No. 6,713,762.

BACKGROUND

Appellant's invention is directed to electromagnetic radiation detection at wavelengths shorter than about 10 micrometers. According to Appellant, a radiation sensor made of SiC having a thickness of at least 200 micrometers shows acoustic absorption mechanism that is useful in detecting radiation at less than 10 micrometers (specification, page 3).

Representative independent claim 1 is reproduced as follows:

1. An electromagnetic radiation detection system, comprising:

a body of SiC having a thickness of at least about 400 micrometers, and

a detector arranged to detect acoustic absorption of electromagnetic radiation having a wavelength less than about 10 micrometers by said SiC body.

The Examiner relies on the following prior art reference:

Ichikawa 5,025,243 Jun. 18, 1991

Claims 1-5 and 7-21 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Ichikawa.

Rather than reiterate the opposing arguments, reference is made to the briefs and the answer for the respective positions of Appellant and the Examiner. Only those arguments actually made by Appellant have been considered in this decision. Arguments

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which Appellant could have made but chose not to make in the briefs have not been considered (37 C.F.R. § 41.37(c) (1) (vii)).

OPINION

With respect to the rejection of claims 1-5 and 9-13, Appellant argues that operating a sensor in the narrow portion of the infrared range below 10 micrometer, as recited in claim 1 is an unexpected result (brief, page 8). Appellant further distinguishes the acoustic absorption of the claimed subject matter over the impurity absorption of the conventional devices by stating that it was not previously known that SiC can be made to exhibit acoustic absorption for infrared wavelengths less than 10 micrometers (id.).

The Examiner responds by stating that the infrared absorption described in Ichikawa is not limited to wavelengths above 10 micrometer since it relates to "infrared" radiation which includes the full spectrum range (answer, page 5). The Examiner further argues that the claims are not limited to absorption of only the wavelength that are less than 10 micrometers (id.) and may include other wavelengths too (answer, page 6).

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Before addressing the Examiner's position and Appellant's rebuttal, it is an essential prerequisite that the claimed subject matter be fully understood. Absent an express intent to impart a novel meaning to a claim term, the words take on the ordinary and customary meanings attributed to them by those of ordinary skill in the art. Brookhill-Wilk 1, LLC v. Intuitive Surgical, Inc., 334 F.3d 1294, 1298, 67 USPQ2d 1132, 1136 (Fed. Cir. 2003). The claim construction analysis begins with the words of the claim. See Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1582, 39 USPQ2d, 1573, 1576 (Fed. Cir. 1996). Claims will be given their broadest reasonable interpretation consistent with the specification, and limitations appearing in the specification are not to be read into the claims. In re Etter, 756 F.2d 852, 858, 225 USPQ 1, 5 (Fed. Cir. 1985). Accordingly, we will initially direct our attention to Appellant's claim 1 to derive an understanding of the scope and content thereof.

Claim 1 is directed to an infrared sensor which detects acoustic absorption of electromagnetic radiation having a wavelength less than about 10 micrometers using a body of SiC having a thickness of at least about 400 micrometer. Although

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Appellant argues that the claimed sensor produces "unexpected results" because no infrared radiation of wavelength less than 10 micrometers were previously detected (brief, page 8), Appellant's disclosure merely identifies using a single crystal SiC body of at least 200 micrometers thickness as the way to achieve such results (specification, page 4, lines 8-12). However, as argued by the Examiner, the claimed arrangement still absorbs other wavelengths or other thicknesses would absorb the smaller wavelengths. We find this position to be consistent with Appellant's own disclosure (page 4, lines 12-14) which states:

While there may be some acoustic absorption with thinner samples, the amount is so small that it has not previously been observed.

Therefore, the acoustic absorption, as well as impurity absorption, appear to be generally present in SiC bodies whereas the strength of the response in SiC to such absorption may vary depending on the physical attributes of the SiC body.

Description of crystal structure and the thickness as the parameters affecting the range of absorbed wavelength in the specification notwithstanding, the claims are merely limited to "a body of SiC" having a specific range of thickness.

Therefore, the alleged distinctions made by Appellant with respect to unexpected results, appear to be based on either the single crystal structure or other microscopic properties of SiC, which are not recited in the claims, or on selecting a particular thickness which apparently Appellant argues to have not been obvious to one of ordinary skill in the art. We also note that the rejection is not based on anticipation and, as stated by the Examiner, merely requires a skilled artisan to select the thickness of the SiC body for a particular infrared wavelength through conducting routine experimentations.

Appellant also argues that the detector of Ichikawa operates based on impurity absorption and not acoustic absorption (brief, paragraph bridging pages 8-9). We agree with the Examiner (answer, pages 6 and 7) that acoustic absorption must occur in the detector of Ichikawa since the thickness range of its SiC bodies includes 200 micrometers, which is the same thickness indicated in Appellant's disclosure as showing acoustic absorption (specification, page 7, lines 8-12).

Appellant further argues that since Ichikawa employs SiC fibers having a thickness of 200 micrometers only along the center axis of the fiber, the reference teaches away from the

claimed range of thickness of at least 400 micrometers (brief, page 9). We disagree with Appellant's characterization of the claimed "body of SiC" as having a specific shape or dimension since the claims are not so limited. Absent any particular shape or specific way of designating any of the dimensions of the SiC body as the "thickness," we find the Examiner's characterization of the fiber diameter as the body thickness to be reasonable. Furthermore, the detector element of Ichikawa is actually comprised of the entire stacked arrangement of the fibers F as shown in the Figures wherein the overall thickness of the "body" as determined by the total diameter of one or more fibers could be about 400 micrometers.

With respect to claims 7 and 8, Appellant's arguments are again premised on a limited interpretation of the claimed "SiC body" having a particular shape (brief, pages 10-11; reply brief, pages 1-2). As discussed above, the claimed "SiC body" could take any shape or configuration such that the claims, as argued by the Examiner (answer, page 6), read on the uniform thickness of the fibers in Ichikawa. Additionally, we observe that the body of SiC disclosed by Ichikawa further includes rows of multiple fibers or filaments which collectively form a body with flat surface and uniform thickness (Figures 1a-1b).

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With respect to claims 14-18, Appellant argues the same points that were previously presented in their rebuttal of the rejection of claim 1. As discussed above with respect to claim 1, modifying Ichikawa to arrive at the claimed thickness range would have been obvious to one of ordinary skill in the art. Additionally, we observe that Ichikawa discloses a body of Sic which includes at least two rows of filaments with an overall thickness of at least 400 micrometers.

Turning to the rejection of claims 19-21, we note that Appellant's arguments are essentially the same as those provided for the rejection of claims 7 and 8. Based on the same rationale discussed above regarding claims 7 and 8, we also remain unconvinced by Appellant's arguments that any error occurred in the Examiner's conclusion of unpatentability with respect to claims 19-21.

In view of our review of Ichikawa and the claimed subject matter encompassed by the claims, we find that the Examiner has presented a reasonable case of *prima facie* obviousness. Accordingly, we sustain the 35 U.S.C. § 103 rejection of claims 1-5 and 7-21 over Ichikawa.

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CONCLUSION

In view of the foregoing, the decision of the Examiner rejecting claims 1-5 and 7-21 under 35 U.S.C. § 103 is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a)(1)(iv).

AFFIRMED



ERROL A. KRASS

Administrative Patent Judge



MAHSHID D. SAADAT

Administrative Patent Judge



ALLEN R. MACDONALD

Administrative Patent Judge

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